

STATE OF TENNESSEE DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686 TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201 TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

Lab ID: K00002820

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code: 327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00002820001

Project Name:

Sample Description:

Trip Blank Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

Trip Blank

Date/Time Collected:

09/03/2009

Geoff Klein

County:

Sampler's Name:

ROANE - 73

09:01

Sample Matrix: EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency invoiced:

TDEC-WPC TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009 12:47

Received By:

Priority Date:

E McCrary

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: **Dissolved Oxygen:**

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	U	mg/L	3.8	10	M Chen	9/10/2009	

TEST: Hardness, Calcium	MET	METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Suspended	ME.	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	9/4/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820002

Project Name:

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

1

Station No.:

EMORY012.1RO

Date/Time Collected:

09/03/2009 11:40

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code:

327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

pH:

7.76

pH Units

uMHO

Chlorine, residual:

Conductivity:

110

24.60

Temperature:

Dissolved Oxygen: 9.26

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total ANALYTE	ME:	METHOD: EPA 310.2				· .
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	29	mg/L	3.8	10	M Chen	9/10/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	29	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/4/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	9/4/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820003

Project Name:

Sample Description: Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

2

Station No.:

EMORY002.1RO

Date/Time Collected:

09/03/2009 09:49

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:** Send Report To:

TDEC-WPC 327.34-20 **TDEC-WPC**

Agency Invoiced: **Priority Date:**

TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

:Ha

7.80

pH Units

uMHO

mg/L

Chlorine, residual:

Conductivity:

187

Temperature: **Dissolved Oxygen: 9.96**

23.52

Other:

Flow:

CFS

TEST: Alkalinity, Total ANALYTE	ME.	THOD: EPA 31				
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	60	mg/L	3.8	10	M Chen	9/10/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	52	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/4/2009	

TEST: Residue, Suspended	WE.					
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZED B	ANALYZED BY:	': DATE
Total Suspended Solids	17	mg/L	10	10	A Peeples	9/4/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820004

Field Determinations

pH:

7.78

pH Units

Sample Description:

Project Name:

Approx 100' downstream from middle dredge pc Chlorine, residual: Sampler Project Name: TVA Ash Spill

Conductivity:

198

uMHO

Project Site No.:

Temperature:

22.47

Dissolved Oxygen: 10.52

Station No.: **Date/Time Collected:**

2A

Dredge Plume 09/03/2009

mg/L

Sampler's Name:

Geoff Klein

Other:

County:

ROANE - 73

Flow:

CFS

Sample Matrix:

Water Knoxville

EFO: **Sampling Agency: Billing Code:**

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: Priority Date:

TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

10:01

Received By:

E McCrary

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	100	mg/L	3.8	10	M Chen	9/10/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	88	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Settleable	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	mi/L	0.10	0.10	P Leathers	9/4/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	17	mg/L	10	10	A Peeples	9/4/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820005

Project Name:

Sample Description: Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

09/03/2009 10:09

Sampler's Name:

Geoff Klein

County: **Sample Matrix:** ROANE - 73

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

pH:

7.76

pH Units

uMHO

Chlorine, residual:

Conductivity:

209 22.15

Temperature: Dissolved Oxygen: 10.64

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	0.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	9/10/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	92	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Settleable	MET	THOD: SM 254	DD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/4/2009		

TEST: Residue, Suspended	METHOD: SM 2540D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	10	mg/L	10	10	A Peeples	9/4/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820006

Project Name:

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.: Date/Time Collected: EMORY001.7RO

Sampler's Name:

09/03/2009 10:21

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20

Agency Invoiced: Priority Date:

TDEC-WPC TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	110	mg/L	3.8	10	M Chen	9/10/2009	

Field Determinations

Dissolved Oxygen: 10.97

Chlorine, residual:

Conductivity:

Temperature:

7.79

220

20.83

pH Units

uMHO

mg/L

CFS

pH:

Other: Flow:

TEST: Hardness, Calcium	ME	METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Calcium hardness	95	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Settleable METHOD: SM 2540F						
ANALYTE	RESULT UNITS MDL		MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/4/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	9/4/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820007

Project Name:

Emory River mile 0.1 **Sample Description:**

Sampler Project Name: TVA Ash Spill

Project Site No.:

4

Station No.:

EMORY000.1RO 10:32

Date/Time Collected: Sampler's Name:

09/03/2009

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **Priority Date:**

TDEC-WPC TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

:Hq

7.82

pH Units

uMHO

mg/L

Chlorine, residual:

Conductivity: Temperature: 257 19.85

Dissolved Oxygen: 11.43

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME.	THOD: EPA 31				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	9/10/2009

TEST: Hardness, Calcium	ME.	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	92	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Settleable	ME.	·				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/4/2009

TEST: Residue, Suspended	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	14	mg/L	10	10	A Peeples	9/4/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820008

Project Name:

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

5

Station No.:

CLINC002.3RO

Date/Time Collected:

09/03/2009 10:46

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73**

Water

EFO:

Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20

Send Report To: **Agency Invoiced: Priority Date:**

TDEC-WPC TDEC-WPC 09/13/2009

Date/Time Received:

TEST: Alkalinity, Total

09/03/2009

12:47

Received By:	E McCrary				
			•		

METHOD: EPA 310.2

Field Determinations

Dissolved Oxygen: 9.72

Chlorine, residual:

Conductivity:

Temperature:

:Ha

Other:

Flow:

7.80

222

23.32

pH Units

uMHO

mg/L

CFS

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	9/10/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	87	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Settleable	WE.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/4/2009

TEST: Residue, Suspended	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	9/4/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820009

Project Name:

Sample Description:

Clinch River TVA Discharge Point

12:47

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

KingAshOutF2

Date/Time Collected:

09/03/2009 10:55

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: **Agency Invoiced:**

327,34-20 TDEC-WPC TDEC-WPC

Priority Date:

09/13/2009

Date/Time Received:

09/03/2009

Received By:

E McCrary

Field Determinations

:Hq

7.70

pH Units

uMHO

Chlorine, residual:

Conductivity:

281

Temperature: Dissolved Oxygen: 10.29

23.78

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total ANALYTE	METHOD: EPA 310.2					
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	9/10/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	85	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Settleable ANALYTE	ME:					
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/4/2009

TEST: Residue, Suspended ANALYTE	ME.	THOD: SM 254				
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peeples	9/4/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820010

Field Determinations

:Hq

7.76

pH Units

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley F Chlorine, residual:

Sampler Project Name: TVA Ash Spill

Conductivity:

263

uMHO

Project Site No.: Station No.:

Project Name:

6

CLINC004.5RO

Temperature: Dissolved Oxygen: 11.30

19.54

Date/Time Collected: Sampler's Name:

09/03/2009 11:09 Geoff Klein

Other: Flow:

mg/L **CFS**

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC 09/13/2009

Priority Date: Date/Time Received:

TEST: Alkalinity, Total

09/03/2009

12:47

Received By:

ANALYTE

Total Alkalinity

E McCrary

MET	THOD: EPA 31	0.2				
RESULT UNITS		MDL	MQL	ANALYZED BY:	DATE	
110	mg/L	3.8	10	M Chen	9/10/2009	

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	96	mg/L	0.7	1	M Chen	9/8/2009

TEST: Residue, Settleable	MET	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/4/2009

TEST: Residue, Suspended	ME	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	υ	mg/L	10	10	A Peeples	9/4/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit



STATE OF TENNESSEE DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686 TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley

TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

Lab ID: KO

K00002820

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00002820001

Project Name:

Sample Description:

Trip Blank Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

Trip Blank

Date/Time Collected:

09/03/2009

09:01

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville **TDEC-WPC** 327.34-20

Billing Code: Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC 09/13/2009

Priority Date: Date/Time Received:

09/03/2009 12:47

Received By:

E McCrary

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: Dissolved Oxygen:

Other: Flow:

TEST: Digestion Metals	MET						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	09/04/2009				A Wilson	9/4/2009	

TEST: ICP	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	U	μg/L	2.9	. 10	A Bass	9/9/2009

TEST: ICP-MS	ME.	METHOD: EPA 200.8					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Aluminum	U	μg/L	6.4	10	M Pattanayek	9/4/2009	
Antimony	0.38J	μg/L	0.33	1	M Pattanayek	9/4/2009	
Arsenic	U	μg/L	0.93	5	M Pattanayek	9/4/2009	
Barium	U	μg/L	2.5	5	M Pattanayek	9/4/2009	
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/4/2009	
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/4/2009	
Chromium	U	μg/L	2.0	5	M Pattanayek	9/4/2009	
Cobalt	0.050J	μg/L	0.04	1	M Pattanayek	9/4/2009	
Copper	1.5	μg/L	0.38	1	M Pattanayek	9/4/2009	
Lead	U	μg/L	0.10	1	M Pattanayek	9/4/2009	
Manganese	U	μg/L	0.42	1	M Pattanayek	9/4/2009	
Nickel	U	μg/L	0.25	1	M Pattanayek	9/4/2009	
Selenium	U	μg/L	1.3	5	M Pattanayek	9/4/2009	
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/4/2009	
Thallium	0.29J	μg/L	0.03	1	M Pattanayek	9/4/2009	
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/4/2009	
Zinc	1.9J	μg/L	1.9	5	M Pattanayek	9/4/2009	

K00002820001

Project Name:

Sample Description:

Trip Blank

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

Trip Blank

Date/Time Collected:

09/03/2009

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency: Billing Code:

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

09/13/2009

Date/Time Received:

09/03/2009

12:47

09:01

Received By:

E McCrary

TEST: Mercury	MET	METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	μg/L	0.029	0.2	A Bass	9/10/2009

Field Determinations

Chlorine, residual:

Dissolved Oxygen:

CFS

Conductivity:

Temperature:

pH:

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820002

Project Name:

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

1

Station No.:

EMORY012.1RO

Date/Time Collected:

09/03/2009 11:40

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: Billing Code:

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

Priority Date:

E McCrary

Field Determinations

pH:

7.76

pH Units

uMHO

Chlorine, residual:

Conductivity:

110

24.60

Temperature: Dissolved Oxygen: 9.26

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Digestion Metals	09/04/2009				A Wilson	9/4/2009

TEST: ICP	ME	METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	150	μg/L	2.9	10	A Bass	9/9/2009

TEST: ICP-MS	ME [*]	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	μg/L	6.4	10	M Pattanayek	9/4/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	9/4/2009
Arsenic	U	μg/L	0.93	. 5	M Pattanayek	9/4/2009
Barium	30	μg/L	2.5	5	M Pattanayek	9/4/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/4/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/4/2009
Chromium	U ·	μg/L	2.0	5	M Pattanayek	9/4/2009
Cobalt	0.15J	μg/L	0.04	1	M Pattanayek	9/4/2009
Copper	1.6	μg/L	0.38	1	M Pattanayek	9/4/2009
Lead	0.10J	μg/L	0.10	1	M Pattanayek	9/4/2009
Manganese	77	μg/L	0.42	1	M Pattanayek	9/4/2009
Nickel	0.81J	μg/L	0.25	1	M Pattanayek	9/4/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/4/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/4/2009
Thallium	0.11J	μg/L	0.03	. 1	M Pattanayek	9/4/2009
Vanadium	U·	μg/L	3.4	5	M Pattanayek	9/4/2009
Zinc	2.1J	μg/L	1.9	5	M Pattanayek	9/4/2009

K00002820002

Project Name:

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

1

Station No.:

EMORY012.1RO

Date/Time Collected:

09/03/2009 11:40

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

pH:

7.76

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature:

110

24.60

Dissolved Oxygen: 9.26

mg/L

Other:

Flow:

CFS

TEST: Mercury	ME			·		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.11J	μg/L	0.029	0.2	A Bass	9/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820003

Project Name:

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

2

Station No.:

EMORY002.1RO

Date/Time Collected:

09/03/2009 09:49

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

pH:

7.80

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature:

187

23.52

Dissolved Oxygen: 9.96

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/04/2009				A Wilson	9/4/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	630	µg/L	2.9	10	A Bass	9/9/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	770	μg/L	64.0	100	M Pattanayek	9/4/2009
Antimony	0.55J	μg/L	0.33	1	M Pattanayek	9/4/2009
Arsenic	9.5	μg/L	0.93	5	M Pattanayek	9/4/2009
Barium	70	μg/L	2.5	5	M Pattanayek	9/4/2009
Beryllium	0.21J	μg/L	0.11	1	M Pattanayek	9/4/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/4/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/4/2009
Cobalt	0.95J	μg/L	0.04	1	M Pattanayek	9/4/2009
Copper	3.5	μg/L	0.38	1	M Pattanayek	9/4/2009
Lead	1.6	μg/L	0.10	1	M Pattanayek	9/4/2009
Manganese	67	μg/L	0.42	1	M Pattanayek	9/4/2009
Nickel	2.4	μg/L	0.25	1	M Pattanayek	9/4/2009
Selenium	1.4J	μg/L	1.3	5	M Pattanayek	9/4/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/4/2009
Thallium	0.24J	μg/L	0.03	1	M Pattanayek	9/4/2009
Vanadium	11	μg/L	3.4	5	M Pattanayek	9/4/2009
Zinc	4.1J	μg/L	1.9	5	M Pattanayek	9/4/2009

K00002820003

Project Name:

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

2

Station No.:

EMORY002.1RO

Date/Time Collected:

09/03/2009 09:49

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

۲	ield	Determinations	

pH:

7.80

pH Units

Chlorine, residual:

Conductivity:

187

uMHO

Temperature:

23.52

Dissolved Oxygen: 9.96

mg/L

Other:

Flow:

CFS

TEST: Mercury	MET	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	μg/L	0.029	0.2	A Bass	9/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820004

Project Name: Approx 100' downstream from middle dredge pc Chlorine, residual: Sample Description:

Sampler Project Name: TVA Ash Spill Project Site No.:

2A

Station No.:

Dredge Plume

Date/Time Collected: Sampler's Name:

09/03/2009 10:01

County:

Geoff Klein ROANE - 73

Sample Matrix: EFO:

Water Knoxville

Sampling Agency: Billing Code: Send Report To:

TDEC-WPC 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

7.78

198 Conductivity:

Temperature: 22.47

Dissolved Oxygen: 10.52

mg/L

pH Units

uMHO

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/04/2009				A Wilson	9/4/2009

TEST: ICP	MET	HOD: EPA 20	0.7	•		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	180	μg/L	2.9	10	A Bass	9/9/2009

TEST: ICP-MS	ME	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	480	μg/L	6.4	10	M Pattanayek	9/4/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	9/4/2009
Arsenic	3.5J	μg/L	0.93	5	M Pattanayek	9/4/2009
Barium	39	μg/L	2.5	5	M Pattanayek	9/4/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/4/2009
Cadmium	U ·	μg/L	0.41	1	M Pattanayek	9/4/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/4/2009
Cobalt	0.28J	μg/L	0.04	1	M Pattanayek	9/4/2009
Copper	2.7	μg/L	0.38	1	M Pattanayek	9/4/2009
Lead	0.36J	μg/L	0.10	1	M Pattanayek	9/4/2009
Manganese	44	μg/L	0.42	1	M Pattanayek	9/4/2009
Nickel	1.2	μg/L	0.25	1	M Pattanayek	9/4/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/4/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/4/2009
Thallium	0.093J	μg/L	0.03	1	M Pattanayek	9/4/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/4/2009
Zinc	2.5J	μg/L	1.9	. 5	M Pattanayek	9/4/2009

K00002820004

Project Name: Sample Description:

Approx 100' downstream from middle dredge pc Chlorine, residual:

Sampler Project Name: TVA Ash Spill

Project Site No.:

2A

Station No.:

Dredge Plume 10:01

Date/Time Collected:

09/03/2009

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC 327.34-20

Billing Code: Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC 09/13/2009

Priority Date: Date/Time Received:

09/03/2009

12:47

0.10J

Received By:

TEST: Mercury ANALYTE

Mercury

E McCrary

MET	THOD: EPA 24	5.1			
RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

0.2

0.029

μg/L

Field Determinations

Dissolved Oxygen: 10.52

Conductivity:

Temperature:

7.78

198

22.47

A Bass

pH Units

uMHO

mg/L

CFS

9/10/2009

pH:

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820005

Project Name:

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.: Station No.:

2B

Date/Time Collected:

EMORY001.9RO 10:09

Sampler's Name:

09/03/2009 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

09/13/2009

Date/Time Received:

09/03/2009 12:47

Received By:

E McCrary

Field Determinations

pH:

7.76

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature: 209

22.15

Dissolved Oxygen: 10.64

mg/L

Other:

Flow:

TEST: Digestion Metals	HOD: EPA 20	0.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/04/2009				A Wilson	9/4/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	160	μg/L	2.9	10	A Bass	9/9/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	280	μg/L	6.4	10	M Pattanayek	9/4/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	9/4/2009
Arsenic	1.7J	μg/L	0.93	5	M Pattanayek	9/4/2009
Barium	34	μg/L	2.5	5	M Pattanayek	9/4/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/4/2009
Cadmium	. U	μg/L	0.41	1	M Pattanayek	9/4/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/4/2009
Cobalt	0.22J	μg/L	0.04	1	M Pattanayek	9/4/2009
Copper	2.5	μg/L	0.38	1	M Pattanayek	9/4/2009
Lead	0.27J	μg/L	0.10	1	M Pattanayek	9/4/2009
Manganese	42	μg/L	0.42	1	M Pattanayek	9/4/2009
Nickel	1.2	μg/L	0.25	1	M Pattanayek	9/4/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/4/2009
Silver	Ŭ	μg/L	0.03	0.25	M Pattanayek	9/4/2009
Thallium	0.052J	μg/L	0.03	1	M Pattanayek	9/4/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/4/2009
Zinc	3.0J	μg/L	1.9	5	M Pattanayek	9/4/2009

K00002820005

Project Name:

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

09/03/2009 10:09

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:**

TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

METHOD: EPA 245.1

Field Determinations

Dissolved Oxygen: 10.64

Chlorine, residual:

Conductivity:

Temperature:

7.76

209

22.15

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Mercury ANALYTE RESULT UNITS MDL MQL ANALYZED BY: DATE Mercury 0.10J μg/L 0.029 0.2 A Bass 9/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820006

Project Name:

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

3

Station No.:

EMORY001.7RO 09/03/2009 10:21

Date/Time Collected: Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:**

TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

7.79

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature: 220

20.83

Dissolved Oxygen: 10.97

mg/L

Other: Flow:

TEST: Digestion Metals						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/04/2009				A Wilson	9/4/2009

TEST: ICP	ST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	130	μg/L	2.9	10	A Bass	9/9/2009	

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	180	μg/L	6.4	10	M Pattanayek	9/4/2009
Antimony	Ū	μg/L	0.33	1	M Pattanayek	9/4/2009
Arsenic	1.6J	μg/L	0.93	5	M Pattanayek	9/4/2009
Barium	41	μg/L	2.5	5	M Pattanayek	9/4/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/4/2009
Cadmium	U	μg/Ľ	0.41	1	M Pattanayek	9/4/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/4/2009
Cobalt	0.23J	μg/L	0.04	1	M Pattanayek	9/4/2009
Copper	2.0	μg/L	0.38	1	M Pattanayek	9/4/2009
Lead	0.23J	μg/L	0.10	1	M Pattanayek	9/4/2009
Manganese	45	μg/L	0.42	1	M Pattanayek	9/4/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	9/4/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/4/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/4/2009
Thallium	0.052J	μg/L	0.03	1	M Pattanayek	9/4/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/4/2009
Zinc	2.0J	μg/L	1.9	5	M Pattanayek	9/4/2009

K00002820006

Project Name:

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected:

09/03/2009 10:21

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **TDEC-WPC** TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

Priority Date:

E McCrary

Field Determinations

Dissolved Oxygen: 10.97

pH:

7.79

pH Units

Chlorine, residual:

Conductivity:

220

uMHO

Temperature:

20.83

mg/L

Other:

Flow:

CFS

MET					
RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
0.08J	μg/L	0.029	0.2	A Bass	9/10/2009
	RESULT	RESULT UNITS		RESULT UNITS MDL MQL	RESULT UNITS MDL MQL ANALYZED BY:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820007

Project Name:

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY000.1RO

10:32

Date/Time Collected:

09/03/2009

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

09/13/2009

Date/Time Received:

09/03/2009 12:47

Received By:

E McCrary

Field Determinations

7.82 pH:

Chlorine, residual:

257 Conductivity:

Temperature: 19.85

Dissolved Oxygen: 11.43

mg/L

pH Units

uMHO

Other:

Flow: CFS

TEST: Digestion Metals	MET	METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/04/2009				A Wilson	9/4/2009

EST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Iron	100	μg/L	2.9	10	A Bass	9/9/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	100	μg/L	6.4	10	M Pattanayek	9/4/2009
Antimony	0.33J	μg/L	0.33	1	M Pattanayek	9/4/2009
Arsenic	2.2J	μg/L	0.93	5	M Pattanayek	9/4/2009
Barium	44	μg/L	2.5	5	M Pattanayek	9/4/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/4/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/4/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/4/2009
Cobalt	0.23J	μg/L	0.04	1	M Pattanayek	9/4/2009
Copper	2.2	μg/L	0.38	1	M Pattanayek	9/4/2009
Lead	0.23J	μg/L	0.10	1	M Pattanayek	9/4/2009
Manganese	49	μg/L	0.42	1	M Pattanayek	9/4/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	9/4/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/4/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/4/2009
Thallium	0.085J	μg/L	0.03	1	M Pattanayek	9/4/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/4/2009
Zinc	2.2J	μg/L	1.9	5	M Pattanayek	9/4/2009

K00002820007

Project Name:

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

4

Station No.:

EMORY000.1RO

Date/Time Collected:

09/03/2009

10:32

Sampler's Name: County:

Geoff Klein ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC 09/13/2009

Priority Date: Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

TEST: Mercury ANALYTE	ME					
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.09J	μg/L	0.029	0.2	A Bass	9/10/2009

Field Determinations

Dissolved Oxygen: 11.43

Chlorine, residual:

Conductivity:

Temperature:

7.82

257

19.85

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820008

Project Name:

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.: Station No.:

CLINC002.3RO

Date/Time Collected:

09/03/2009 10:46

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO: Sampling Agency: Water Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 **TDEC-WPC**

Agency Invoiced: **Priority Date:**

TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

pH:

7.80

pH Units

Chlorine, residual: Conductivity:

Temperature:

222

23.32

uMHO

Dissolved Oxygen: 9.72 Other:

mg/L

Flow:

TEST: Digestion Metals	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/04/2009				A Wilson	9/4/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	82	μg/L	2.9	10	A Bass	9/9/2009

TEST: ICP-MS	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	130	μg/L	6.4	10	M Pattanayek	9/4/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	9/4/2009
Arsenic	2.3J	μg/L	0.93	5	M Pattanayek	9/4/2009
Barium	37	μg/L	2.5	5	M Pattanayek	9/4/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/4/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/4/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/4/2009
Cobalt	0.16J	μg/L	0.04	1	M Pattanayek	9/4/2009
Copper	2.7	μg/L	0.38	1	M Pattanayek	9/4/2009
Lead	0.14J	μg/L	0.10	1	M Pattanayek	9/4/2009
Manganese	41	μg/L	0.42	1	M Pattanayek	9/4/2009
Nickel	1.1	μg/L	0.25	1	M Pattanayek	9/4/2009
Selenium	. U	μg/L	1.3	5	M Pattanayek	9/4/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/4/2009
Thallium	0.058J	μg/L	0.03	1	M Pattanayek	9/4/2009
Vanadium	U	μg/L	3.4	·5	M Pattanayek	9/4/2009
Zinc	2.5J	μg/L	1.9	5	M Pattanayek	9/4/2009

K00002820008

Project Name:

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

5

Station No.:

CLINC002.3RO

Date/Time Collected:

09/03/2009

10:46

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20 **TDEC-WPC**

Send Report To: Agency Invoiced: **Priority Date:**

TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Dissolved Oxygen: 9.72 mg/L

Temperature: 23.32

Field Determinations

Chlorine, residual:

Conductivity:

pH Units

uMHO

Other:

Flow:

CFS

7.80

222

TEST: Mercury	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.09J	μg/L	0.029	0.2	A Bass	9/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820009

Project Name:

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.: Date/Time Collected: KingAshOutF2 09/03/2009 10:55

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 **TDEC-WPC** TDEC-WPC

Priority Date:

09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

TEST: Digestion Metals	MET	HOD: EPA 20	0.2	.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	09/04/2009				A Wilson	9/4/2009	

Field Determinations

Dissolved Oxygen: 10.29

Chlorine, residual:

Conductivity:

Temperature:

7.70

281

23.78

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: ICP	ME	THOD: EPA 20	0.7	•)			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Iron	150	μg/L	2.9	10	A Bass	9/9/2009		

TEST: ICP-MS	ME	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	330	µg/L	6.4	10	M Pattanayek	9/4/2009
Antimony	0.39J	μg/L	0.33	1	M Pattanayek	9/4/2009
Arsenic	3.6J	μg/L	0.93	5	M Pattanayek	9/4/2009
Barium	42	μg/L	2.5	5	M Pattanayek	9/4/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/4/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/4/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/4/2009
Cobalt	0.23J	μg/L	0.04	1	M Pattanayek	9/4/2009
Copper	5.2	μg/L	0.38	1	M Pattanayek	9/4/2009
Lead	0.24J	μg/L	0.10	1	M Pattanayek	9/4/2009
Manganese	50	μg/L	0.42	1	M Pattanayek	9/4/2009
Nickel	1.1	μg/L	0.25	1	M Pattanayek	9/4/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/4/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/4/2009
Thallium	0.078J	μg/L	0.03	1	M Pattanayek	9/4/2009
Vanadium	4.2J	μg/L	3.4	5	M Pattanayek	9/4/2009
Zinc	4.0J	μg/L	1.9	5	M Pattanayek	9/4/2009

K00002820009

Project Name:

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

KingAshOutF2

Date/Time Collected: Sampler's Name:

09/03/2009 10:55

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **Priority Date:**

TDEC-WPC TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

TEST: Mercury	ME.	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	μg/L	0.029	0.2	A Bass	9/10/2009

Field Determinations

Dissolved Oxygen: 10.29

Chlorine, residual:

Conductivity:

Temperature:

7.70

281

23.78

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002820010

Project Name: Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Sampler Project Name: TVA Ash Spill

Project Site No.:

6

Station No.:

CLINC004.5RO

Date/Time Collected:

09/03/2009 11:09

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC 327.34-20

Billing Code: Send Report To: Agency Invoiced:

Priority Date:

TDEC-WPC TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

Field Determinations

pH: 7.76

Conductivity: 263

19.54

Temperature: Dissolved Oxygen: 11.30

Other: Flow:

CFS

pH Units

uMHO

mg/L

TEST: Digestion Metals METHOD: EPA 200.2 **ANALYTE** RESULT UNITS MDL MQL ANALYZED BY: DATE 09/04/2009 A Wilson 9/4/2009 **Digestion Metals**

TEST: ICP	ME	THOD: EPA 20	0.7		·	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	80	μg/L	2.9	10	A Bass	9/9/2009

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	45	μg/L	6.4	10	M Pattanayek	9/4/2009
Antimony	U	μg/L	0.33	. 1	M Pattanayek	9/4/2009
Arsenic	U	μg/L.	0.93	5	M Pattanayek	9/4/2009
Barium	33	μg/L	2.5	5	M Pattanayek	9/4/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/4/2009
Cadmium	υ	μg/L	0.41	1	M Pattanayek	9/4/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/4/2009
Cobalt	0.14J	μg/L	0.04	1	M Pattanayek	9/4/2009
Copper	1.6	μg/L	0.38	1	M Pattanayek	9/4/2009
Lead	0.13J	μg/L	0.10	1	M Pattanayek	9/4/2009
Manganese	32	μg/L	0.42	1	M Pattanayek	9/4/2009
Nickel	1.1	μg/L	0.25	1	M Pattanayek	9/4/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/4/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/4/2009
Thallium	U	μg/L	0.03	1	M Pattanayek	9/4/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/4/2009
Zinc	U	μg/L	1.9	5	M Pattanayek	9/4/2009

K00002820010

Project Name:

Sample Description: Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

CLINC004.5RO

Date/Time Collected:

09/03/2009 11:09

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:**

TDEC-WPC 09/13/2009

Date/Time Received:

09/03/2009

12:47

Received By:

E McCrary

TEST: Mercury	ME	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	μg/L	0.029	0.2	A Bass	9/10/2009

Field Determinations

Dissolved Oxygen: 11.30

Conductivity:

Temperature:

pH:

Other:

Flow:

7.76

263

19.54

pH Units

uMHO

mg/L

CFS

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit